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THE  
**FARMER AND PLANTER,**

DEVOTED TO  
**AGRICULTURE AND HORTICULTURE,**  
**DOMESTIC AND RURAL ECONOMY.**

ILLUSTRATED WITH ENGRAVINGS OF  
**FARM IMPLEMENTS, BUILDINGS, DOMESTIC ANIMALS,**  
**SHRUBS, FLOWERS, FRUITS, &C.**

EDITED BY  
**GEORGE SEABORN,**

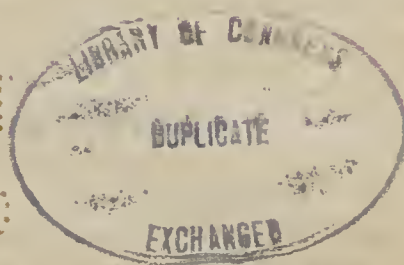
**VOLUME VII.---1856.**

**PENDLETON, S. C.**

**S. W. LEWIS, Publisher,**

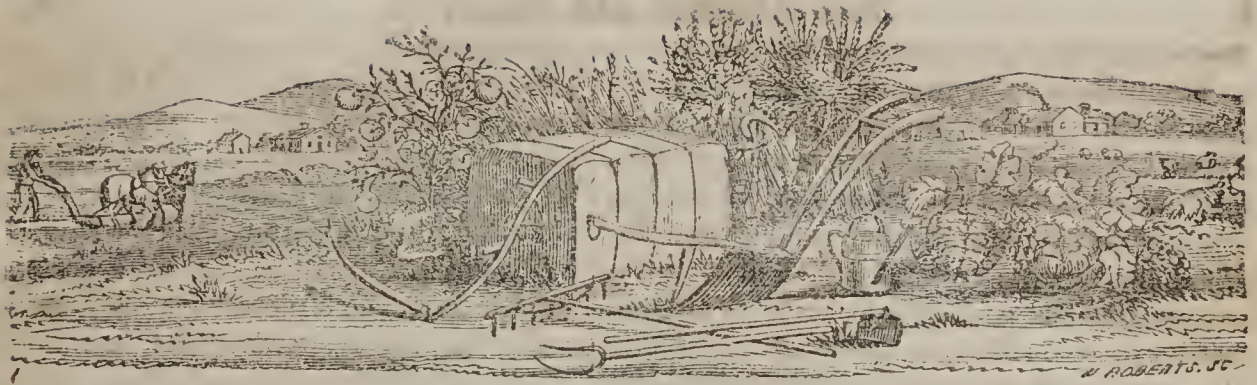
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# THE FARMER AND PLANTER.

Devoted to Agriculture, Horticulture, Domestic and Rural Economy.

Vol. VII.

PENDLETON, S. C., JANUARY, 1856.

No. I.

The Farmer and Planter  
Is issued monthly at Pendleton, S. C.,

**BY GEORGE SEABORN,**

Editor and Proprietor.

**S. W. LEWIS, Publisher.**

## TERMS.

1 copy, one year (invariably in advance)	\$1 00.
6 copies one year	5 00.
25 copies one year	20 00.
100 copies one year	75 00.

Advertisements will be inserted at the rates of seventy-five cents a square, (twelve lines or less,) for the first insertion, and fifty cents for each subsequent one.

Liberal deductions will be made to liberal advertisers.

The postage on the Farmer and Planter is anywhere in the State, three-fourths of a cent, and out of the State one cent and a half per quarter.

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**TO CURE THE SORE NECKS OF OXEN.**—A neighbor of mine had a pair of working oxen, whose necks became very sore. He covered that part of the yoke resting upon the neck with sheet lead. They got well almost immediately though constantly kept at work. I suppose the lead being a good conductor of heat, drew off the inflammation, and thus enabled the sores to heal.—*Exchange.*

## A Chapter on Fish, Fish Ponds and Artificial Fish Breeding.

BY JOHN BACHMAN.

The following note accompanying the communication referred to, was handed us by Col. SUMNER, the acting Secretary of the Executive Committee of the State Agricultural Society, at its recent meeting in Columbia, for publication. In consequence of the publication of Col. CALHOUN'S Address in our December number, we were compelled to postpone publishing this essay to our January number, and we regret now, from its great length, having to divide it. Our readers, especially the disciples of old ISAAC WALTON, will find it an able and most interesting production on a subject of growing interest both in Europe and our own country. Dr. BACHMAN was not denied the pleasure of attending the meeting of the Society as he expected to be when his note was written.—ED. F. & P.

CHARLESTON, 5th Nov., 1855.

The President and Members of the State  
Agricultural Society of S. C.:

GENTLEMEN:—Having long felt a deep interest in the agriculture of our State, I have read with great satisfaction, the notice of your intended meeting at Columbia. As unavoidable engagements will prevent my meeting with the Society, I can only tender to them my congratulations on the renewed efforts they are now making in a cause so useful and patriotic, and my sincere prayer that their labors may meet with encouragement and success.

As every thing that has a tendency to cheapen food and add to the comforts of life, is more or less connected with agriculture, I have ventured in the communication accompanying this note, to direct your attention to one item in our Southern products which seems to have been nearly, if not altogether overlooked.

I remain gentlemen, with great respect,

Your obedient servant,

JOHN BACHMAN.



As considerable interest has recently been excited in Europe in reference to the subject of artificial fish breeding, and as some enquiries have been addressed to the Editors of our Southern agricultural journals, and several applications been made to us individually in regard to artificial ponds for the breeding of fresh water fish, we will, as far as we are able, comply with the wishes of our agricultural friends by giving a few hints on the general subject of fishes and fish breeding. Our views are principally the results of personal observations and experience extending through a long course of years on a subject which, although pursued in broken intervals of time, has greatly interested us. We premise, by stating to our readers that we have neither time or space in this article to treat any part of this subject fully, we shall frequently only state our convictions, which, in our minds, are truths, without entering into any details of facts and arguments. To treat the subject fully, would require volumes. A hint, however, thrown out at random, often awakens a train of thought in the reflecting mind, leading to further observation and experiments, and often to beneficial results.

The seas and rivers, as well as the earth and air, are peopled with living things. All are created for the support and comfort of man, of whom God said, "Let us make man in our image, after our likeness, and let him have dominion over the fish of the seas, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth." And now the first naturalist received his commission more imposing than all the parchments issued by the most learned societies in the world, in these memorable words: "And out of the ground the Lord God formed every beast of the field, and every fowl of the air, and brought them unto Adam to see what he would call them, and whatsoever Adam called every living creature, that was the name thereof." The office of the naturalist has, therefore, it must be conceded, claims to the highest antiquity, and the sanction of the supreme ruler of the world:

Could we but dive into the waters and study the instincts and habits of fishes, and write their biographies as we do those of men—of quadrupeds and birds, we would find ourselves traversing a new world, and be enabled to write a very interesting chapter on those now blank pages in the history of nature, which remain for future observing naturalists to fill up. When they do appear, the ever-inquisitive mind of man will have opened to him a new fountain of

knowledge. There he will read of instincts, habits and passions of conjugal attachments, and parental protection of the love and the hate—of the sociality of some species, and the ferocity and interminable warfare of other tribes. In a word, the world within the ocean and beneath the waters of the streams and lakes, is peopled with races whose instincts lead them to engage in diversified pursuits, and where the ravenous fishes are designed, like ravenous beasts and birds of prey, to check the too rapid multiplication of some species, and preserve an equilibrium in this world of waters.

Among those appointed agents to control these masses that people the waters, is man himself. He is charged with a commission to study their names and habits, to appropriate them to his use, and by a law of nature he is permitted to derive the same pleasure in the pursuit that is derived from all other researches after knowledge.

It must be admitted that every effort that has a tendency to multiply and cheapen food, and thus afford support to millions of our race, must secure the countenance and approbation of the philanthropist at all times. We are scarcely aware of the immense numbers of the human race that are supplied with cheap and wholesome food from the waters of the seas, the lakes, rivers and streams. The most important cities of the world are maritime. The sea not only gives wings to commerce, but it furnishes us with the oil that feeds our lamps, the turtles and terrapins, the lobster, the crab, the prawn, the parent of the shrimp, and other crustacea, the oyster and other shell fish, and an endless variety of the finny tribes, which serve to cheapen our markets, and afford wholesome food to the poor, and delicacies to the rich. Very sad and distressing would be the condition of millions of the inhabitants of large maritime cities, if the waters should cease to yield up their treasures to the craving appetites of men.

Before we sat down to write a few thoughts on the subject of fishes and their propagation, we obtained the "treatise on artificial fish breeding, translated and edited by W. H. Fry," published by Appleton & Co., New York, under a hope that we possessed in this work all that was essential on this subject. It is a creditable translation of the reports on the subject, made to the French Academy and the French Government, in favor of the two fishermen, Gehin and Remy, who re-discovered the mode of artificial fish breeding, the particulars of the process as pursued in England, together with a translation of portions of Jacobi's full and explicit essay on



the same subject, written nearly a century ago, to which are added several sensible papers, extracted from "Bell's life in London," by two anonymous authors.

We find, however, that nearly the whole book is devoted to instructions in breeding a single species, *the salmon*. It may, therefore, prove a valuable guide to the inhabitants in the vicinities of Northern rivers; but, as we fear the salmon can never, even by artificial breeding, be introduced into our Southern waters, the work, except as a guide to the breeding of other species, will be of no practical benefit to us.

We may, perhaps, here be excused for making a few brief allusions to some of the statements contained in that work. In a note to the preface, a slur is thrown on men of science, who are dubbed "Judges," "Doctors," "Professors," &c. Reference is made to the obfuscated vanity of a few bewildered fogies who can there make speeches of which they know nothing, or read dull translations from the French or Dutch, &c. This might have been omitted without weakening the argument or injuring the sale of the book, as we will shew presently. In another part of the work, the French Editor, Godeau, in puffing the worthy French fishermen, says: "The discovery of Gehin and Remy is a great fact for humanity parallel with the introduction into France of the potatoe,"—(p. 22). Again: "Forever will the discovery of Gehin and Remy be a fruitful fact for humanity, one of the grandest discoveries of ancient or modern times—a discovery which we place even above that of Leverrier," &c,—(p. 23). This is rather extravagant praise. We are disposed to admit that the two fishermen had re-discovered a long known and long and successfully practised series of facts, which, without their knowledge had been published in every minute detail in four different languages nearly a hundred years before. We are farther willing to admit that their plain statement of facts induced the French Government to encourage the process of stocking their rivers with salmon. We moreover acknowledge the justice and propriety of the reward bestowed on the fishermen, viz: an annual pension of 1200 francs to Remy, and 500 francs to Gehin, with 10 francs a day for travelling expenses, and a tobacco factory to each. All this was generous and laudable, but the simpletons, both in France and New York, who sneered at men of science for their ignorance and "fogyism" in suffering the two illiterate fishermen to carry off the palm of what they term one of the grandest discoveries of ancient or modern times, which it took 6000 years

to find," ought to have known what the report of Milne Edwards, will at least in part, inform them of, that the discovery had long since been made by a man of science, in Germany, after a long series of experiments, which eventuated in the most perfect success. Inasmuch as many of the details are contained in the work above referred to, we will only mention a few facts, and refer to the dates.

Jacobi, an eminent naturalist of Germany, after having been engaged thirty years in experiments on artificial fish breeding, communicated his discovery to Fourcroy in 1758. This was written in the German language. A latin translation was furnished by Count de Goldstein. Its title was, "an essay on the artificial fecundation of fishes eggs, and on the employment of the process of stocking rivers and ponds." In 1763, full details were published in the "*Journal de Hanovre*." The whole process of Jacobi was carried on near Nortalem, in the Kingdom of Hanover. He not only stocked the river with salmon by his artificial process, but rendered them an object of considerable commerce. England, in order to reward his services, granted him a pension, (see *Soirees helvetiennes*, Amsterdam, 1771, p. 169). An abridged account was published at Berlin in 1764. The French version was published by order of the Academy of sciences in France, in 1773.

The details of the process of Jacobi are as full in every particular as those now published in France, as the results of the discoveries of Remy and Gehin. This is now fully admitted by the scientific men of France; indeed, they have re-published Jacobi's experiments, and the essential points, are faithfully given in the title work before us as translated by M. Coste, (ps. 24, 90.)

But this is not all; England is ahead of France in this whole matter of artificial fish breeding. Yarrell's admirable work, in two volumes, on the history of the British fishes, was published in London, in 1836. In his preface, vol. 1st, p. 24, he refers to the essay of Dr. Walker, of Edinburg, on the natural history of the salmon, who had quoted the experiments of Jacobi, and had found that "this artificial fecundation can be accomplished with the roe and melt of fishes which have been dead two, or even three days." In 1836, Shaw commenced his experiments on artificial salmon breeding in Great Britain, by the process described by Jacobi, and was perfectly successful. In 1838 we happened to be in London, and attended the meetings of the Zoological Societies, of which we were a corresponding member. The whole subject which had awakened inter-



est in consequence of the decline of salmon in most of their rivers, was there discussed and regularly published in their proceedings. The whole process of artificial fish breeding was fully understood and familiarly spoken of as facts well known to men of science, and successfully practiced, not only in Hanover, but in Great Britain. Our own experiments on other species in America, excited no surprise. The simple knowledge of the fact that the eggs of the fish became fertilized by the effusion of the milky substance of the male, which may be seen in clear water any day in spring, on the breeding places of our perch and other species, will lead to all the results which have followed. The mode pursued by Jacobi—by the English naturalists, and the French fishermen, were precisely the same. A male and female salmon were taken whilst the latter was in the act of spawning. The roe was, by a pressure on the abdomen, repelled from the female, and the milky substance called milt, from the male in the same manner. These eggs, now impregnated by this artificial process, were carried to a pool or basin, where, in the course of from 50 to 1010 days, the young fry appeared.

The eggs of fishes may be assimilated to the seeds of plants, and may, therefore, be transported to long distances. If placed in their natural element, under favorable circumstances, they will produce young as the seeds of a plant will germinate and grow. Mr. Gehin only commenced his investigations in 1842, and it was not until 1848 that the Academy of Sciences was apprised of the claims of the fishermen of Bresse. Long before this, scientific men of England had been stocking their rivers with salmon and salmon trout. Mr. Boccius, in 1841, introduced, by this process, 120,000 into the streams near Welridge, and on the following year 2,000,000 of trout in the streams in the county of Hertford, and published a book on his method of stocking streams.

Thus, it appears that the diminution of salmon from year to year in the waters of England and France, awakened a desire to restore this constantly increasing loss. England sought to do this by the lights which the science of Germany had afforded and placed in full detail in her hands. The French fishermen, we charitably believe, re-discovered it by the study of simple nature, to which the philosopher, as well as the peasant, must resort in the investigation of truth; as far as this, they also were men of science. France would have obtained her information in a few months without the aid of the fishermen, and it is very sur-

prising that if they had forgotten what their learned Academy had published in regard to this discovery in Germany, they should so long have been ignorant of the published accounts of what had been done and was doing across the channel. The discovery of Jacobi has, no doubt, been re-produced in many instances in every country without the slightest knowledge of Jacobi or his writings. Whilst, therefore, we award due praise to the fishermen, let us not be unmindful of the previous labors of the scientific men of Germany and England.

The next important enquiry that presents itself is, how far can this method of artificial fish breeding be applied to those fishes of the seas that are articles of commerce, in the capturing of which thousands of hardy seamen are employed, and whose exposed and often perilous labors supply food for millions of our race.

A mere glance at the habits of these species of fish, will convince us that, with very few exceptions, no great advantage can be derived from this discovery, in the breeding and transplanting of the finny tribes. They, in their production must be left to the operation of nature's own laws, and the fisherman must pursue and capture them on their own watery domain. We confess, however, we would be pleased to hear of experiments made to introduce into the waters of our Southern sea coast, the spawn of the turbot, the sole from the English seas, and a few superior fishes from the Mediterranean coast.

The fishes in the European seas have their representatives of the same genus along our own coast, and in many instances are identical on both sides of the Atlantic.

The American continent is colder than Europe under the same latitude; there is a difference of from ten to twelve degrees; we are not, therefore, to be governed in comparing the two continents by parallels of latitude, but by temperature. Massachusetts possesses the temperature of Denmark; Washington, that of Bordeaux; and the Carolinas, that of Lisbon, Madrid, &c. The fishes of commerce are about equally distributed in the seas of both continents according to the above temperatures. On the coast of Great Britain and the North of Europe, the principal species of the fisheries are: The herring, (*clupea herangus*), the mackerel, (*scomber vulgaris*), the shad, (*Alosa finta*, and *alosa communis*), the mullet, (*mugil capito*), the sole, (*solea vulgaris*), the turbot, (*rhombus maximus*), the lamprey, (*petromyzon marinus*), the hoolibut, (*hippoglossus vulgaris*), the haddock, (*morruae aegle finas*), the pilchard, (*clupea pil-*



*chardus*), a small species of herring, usually about 9 inches in length. It requires from 2500 to 3000 grown fish to fill a hogshead. Yarrell mentions (vol. 2nd, p. 106.) that in one case 2200 hogsheads were captured in one haul of their immense sea seines; and Borlase records another instance, where 3000 hds. were taken. The sturgeon, (*acipenser sturio*). The roe of this fish is greatly sought after by the Italians. The caviar or kavia is prepared from it. It is used in Muscovy and in Holland as butter. The greatest sturgeon fishery in the world is at the mouth of the Volga, in the Caspian sea. The salmon, (*salmo salar*), and the salmon trout, (*salmo trutta*). To this might be added, although they cannot be ranked as fishes of commerce, the flounder, (*platessa flesus*), the plaice, (*platessa vulgaris*), and a few others. It should be observed that there are several species in each of the several genera to which these species belong. Nearly all of these fish, with the exception of salmon and the trout, deposit their spawn in the waters, more or less deep, of the ocean. They are furnished with a great abundance of eggs, which require no protection from man. Block counted five hundred and forty thousand ova in a female mackerel. The numbers in these several species, although they have declined in some years and on some of the fishing grounds, have increased in others. The products of the ocean appear inexhaustible, and their multiplication is not dependent on the artificial aid of man.

It is far different, however, with the salmon and salmon trout. These ascend rivers for the purpose of spawning, and being valuable fishes, their numbers were reduced by the cupidity of man; and now, by artificial means, they are restocking their rivers, which, we believe, will result in success.

Let us now come nearer home, and take a passing glance at our own fisheries, and fish on this side of the Atlantic. From the United States census we learn that our country employs 9,025 men engaged in the fisheries, and that, in addition to the immense consumption in America, our exports in fish for 10 years down to 1853, amounted to seven million, two thousand, two hundred and twenty-seven dollars.

We have in America, the herring, the shad, the mackerel, the cod, the haddock, &c. and indeed, we are represented, although in different species, by all the genera that constitute the fishes of commerce in Europe. Their salmon are more abundant than ours. Our shad are infinitely finer and more plentiful than theirs. In

mackerel and herrings, the two countries are about equal. Their mode of preserving the latter is superior to ours. Our cod are more abundant. Of the flat fish or plaice family, their turbot and sole are superior to ours. The holibut is the same species along the shores of continents.

The salmon in our country is identical with that of Europe. It does not exist South of the Connecticut river, lat. 41½, and we doubt whether it ever was found in any quantity in the Hudson. There were no obstructions in the river, and no steamboats to disturb the waters fifty years ago, and we never saw or heard of the salmon, and we have only an account of one or two that have since been captured. The European rivers that abound in salmon, are short, and their waters are fresh to the ocean, admitting the salmon to find a ready access. The Hudson is salt or brackish for a hundred miles from the ocean, and the tide rises for 150 miles. From this cause, or from its being too far to the South, the salmon are not found in its waters. In the Connecticut river the salmon is becoming scarcer every year in consequence of the erection of weirs, mill dams and other obstacles to its ascent in the spawning season. The New York market is supplied with salmon principally from the Kennebec river, in Maine. Salmon spawn might easily be transported from the Kennebec river to the upper waters of the Hudson. The possibility of success is at least deserving of a fair trial. With a little attention and judicious laws rigidly enforced, the Connecticut river could, certainly, be made to yield a great abundance of salmon.

The American shad (*alosa sapidissima*), is the most valuable of our spring fishes in America. It enters our rivers from Alabama to Maine. We believe that the shad return to the several rivers where they were spawned. Although it is the same species along our whole Atlantic coast, yet each river seems to have its variety, so that our fishermen speak confidently of being able to point out those from the Edisto and those from the Savannah, those from the Delaware and those from the Schuylkill, as well as those from the Hudson and Connecticut rivers. We believe that the shad do not cross the Gulf stream, which is avoided by all but cosmopolite or tropical fishes—that they do not migrate far along our coast—that they remain in the ocean contiguous to their several rivers, which latter they ascend for the purpose of spawning. Neither do we believe that the account of the herrings, represented by Pennant, Anderson, and other early writers, as a-



king up their winter quarters in the arctic circle, and making their way first to the Shelland Islands, and thence along the coasts of Europe and America, is entitled to any credit. Our reasons are these: 1. None of our voyagers could find the herring in the Arctic seas. 2. There is no fishery for them either in Iceland or Greenland. 3. They are found in deep water at all seasons, along the coasts of Europe and America. 4. The herrings are nearly all of different species on the opposite coasts. 5. Instead of coming from the North, both the herrings and the shad, enter Southern rivers several months before they are heard of at the North. The shad appears in Carolina, in January and February; in N. Y., in the beginning of April; and in Massachusetts, in May.

We perceive that by a bill introduced into the New York Senate, every fisherman is required to impregnate the spawn of two dozen female fish with the milt of the same number of males, towards the close of the fishing season, and plant the same on his fishing ground in the presence of a justice of the peace. As this applies principally to the shad, they seem to have overlooked one material fact in natural history. This species spawns exclusively in fresh water. The shad that supply the New York markets are, at present, principally taken in gill and hoop nets that stud the shallows and bays of the Hudson river for a hundred miles. Here the water is salt. The ova would not be sufficiently matured, and the whole labor of planting them would be a dead loss. If these legislators had gone higher up the river, and looked out later in the season for the spawning grounds of their daily diminishing shad, they would have been enabled to discover the cause, and enact wiser laws for the preservation of the growing evil. Fifty years ago these fine fish were caught with the seine by thousands, four or five miles above Waterford, the head of navigation. We frequently saw them sold at one dollar per hundred. Their spawning grounds were at the feet of the various falls of the large streams that constitute the sources of the river. We several times witnessed the process of spawning at the foot of the Hoosac Falls. The shad had crowded together in numbers of many thousands in an immense basin, whose waters were from one to twenty feet deep, where the sides of the rocks were covered with foam, and the atmosphere was filled with the spray of the rushing torrent. The waters seemed swelling with the constant wheeling and turning of these fishes. They slapped the water with their tails, and appear-

ed by violent muscular actions to be engaged in disencumbering themselves of their spawn. They were so much occupied in their own work that they were regardless of the presence of man, and ran heedlessly into scoop nets which took them at the rate of an hundred in an hour. Men standing on the rocks were securing them with their spears, and an Indian boy was shooting his barbed arrow at random into the water, and brought them out with a line which was attached to the arrow. Thus, whilst the work of multiplication was progressing, that of destruction was not idle. A few weeks afterwards, thousands of these fishes might be seen floating down the river, some dead and others with attenuated bodies and disproportioned heads, ready to die, from the exhausting process of spawning.

A writer in the *New York Times* says that, "whereas it used to be a common thing to draw 1600 shad at a haul, the fisherman now gets sometimes one or two fish in his net." No wonder! they have shut out the shad from their breeding places above. Where no spawn is deposited, there can be no fish. The dam below Waterford was thrown across the river, and a miserably constructed *apron* was erected where the fish were to ascend. The inventors of this contrivance seemed to think that the shad would mount a waterfall as the salmon leaps up a cataract. The shad is now no longer sought after above the dams and other obstructions to its ascent and is accordingly diminishing in the river below.

The fact that the perch and other fishes are lessening in the same proportion in that now great river of steamboats and commerce, the Hudson may, we think, be easily accounted for. Their spawning beds are situated on the long line of shallows, called "flats," that exist a little removed from the channel between Dutchess county and Albany. There, in their quiet waters, covered with the broad leaves of floating plants, they, in the peaceful days of the Knickerbockers, multiplied unmolested. If we now take our stand on the shore, we will hear the puff of one steamer after another, hurrying past each other in every direction. The boat passes, and is nearly out of sight when the water becomes agitated at your feet, and wave after wave, that had been lifted up by the paddles of the steamer, comes bounding on the shores, disturbing the beds, and covering up with the mud of a constantly agitated river, the spawn of the perch. Rivers of commerce are rendered unsuited to the spawning and habits of many



species of fish; the shad have almost disappeared from the Thames.

In our Southern waters the fishes that run from the sea to the rivers for the purpose of spawning, are not numerous. The shad, the rock fish, called the striped bass at the North, (*labrax lineatus*), and the sturgeon (*acipenser*), are the principal ones. Our Southern sea bass, (*corvina ocellata*), a highly esteemed fish, is found ascending our rivers, not only in brackish, but oftentimes in fresh waters. We have in the waters of our Southern sea board an abundance of fine fish, but we have not a sufficient number of fishermen, nor do they possess all the improvements in nets, or the skill of European fishermen. We have no space to enumerate the species; they would afford a large catalogue. Among the best are the crevalle, (*bothrolamus panpanus*). Two species of whiting, (*umbrinus litoralis et U alburuses*). We recollect having been invited by a friend in New York, to accompany him to one of their famous restaurateurs to join him in a plate of what he regarded the most delicious fish that came to their market, called, by way of distinction, the king-fish. He proved himself an epicure. It was, however, our Carolina whiting. The drum, (*pogonias chromis*), the sheepshead, (*sargus ovis*), the sailor's choice, (*larimus fasciatus*), the croaker, (*micropogon undulatus*), the yellow tail, (*homoprion xanthimus*), the Southern black fish, (*centropistes atrarius*), the sea bass, the rockfish, mullet and many others. Some fine flavored fishes are also brought to our sea ports alive from the Florida coasts.

Having given a glance at the salt water fishes, let us now direct our attention to those that may, with a great probability of success, be multiplied in a fresh water fish pond.

We will here enter a little into a detail of our personal experience—our disappointments with some, and our success with other species, in order that others may guard against our mistakes and consequent disappointments, and improve on and profit by our successes.

In 1804, whilst yet a school boy, we applied to and obtained the ready consent of an indulgent father, to construct a fish pond agreeable to our own imperfect notions on this subject. The locality was ten miles above Troy, N. Y., and within 2½ miles of the Hudson river. We had two objects in view: One, which appeared quite reasonable, was that of having always at hand a supply of fresh fish for the table; the other, and which we did not much speak of, was, an irrepressible desire to study the habits of the

finny tribes. We were not then aware that any book had ever been written on fisher. A never-failing brook ran near our residence, the waters of which had been appropriated to no other purpose than that of sometimes turning a griststone. It was a clear stream, but less cold than other streams in the neighborhood, which contained the brook or speckled trout. By the aid of two of our father's negroes, a dam was thrown across the valley of about forty yards in extent. It was at first constructed with the cheapest materials. A frame of logs, planked with slabs and filled with a broad bank of earth. We candidly admit that we can give no instructions in the mysteries of dam building. Suffice it to say, it was the most perplexing job we ever undertook. The slightest crevice in the bank, no larger than a goose quill, would in a night increase to the thickness of an arm, and and presently rushed the water through a ready made sluice of the size of a hogshhead. Patience however and a little more experience finally surmounted every difficulty and our dam never gave us much trouble afterwards. The water, in few weeks, filled the pond to overflowing. It was seven or eight feet deep in the channel, gradually shallowing to the shores and covered about three acres. The sluice way, or mouth of the dam through which the waters escaped was near the surface with a gate 8 feet wide, with brass wires perpendicularly inserted, 4 to the inch. The sides and upper end of the pond were planted with water grasses, arrow heads (*sagittaria*) the yellow water lily (*Nuphar kalimiana*) and other aquatic plants, such as grew in the neighboring mill ponds. At long intervals during that and the following year, as the laborers found leisure, a broad bank was thrown on the sides and planted with willows and other trees affording a shade for the fish, a quiet retreat for the student, and a pleasant green bank for the seat of the angler. Two pair of domesticated summer ducks, and a pair of Canada geese, the outer joint of the wing of each having been removed, were the only birds allowed to navigate the waters and multiply their broods on the banks of the fish pond.

(TO BE CONTINUED.)

STRUGGLATED HERNIA, which but a few years ago was in continually doomed to the knife by most surgeons, is now very generally relieved by the application of cold to the tumor, in various forms. We have recently seen two successful cases, by pouring either on parts concerned and hastening its evaporation with a pair of bellows. This will be found every way preferable to any of the frigorific mixtures in vogue.



### Culture of Corn.

Although rather long for our columns, we should be doing our readers injustice, not to give them the following excellent article, on corn culture from the April number of the American Farmer. We regret that such as are not subscribers to the American Farmer (which every one should be in justice to himself,) could not have seen the article earlier—but in season or out a good thing never comes amiss; besides this article contains much that may be advantageously known if acted out at all seasons of the year.—Ed. F. & P.

*Corn Planting.*—The time for commencing this work differs so much in our expanded country, that it is impossible to fix upon a particular period that would be universally proper; for although the corn is already up and flouting its luxuriant foliage to the breeze, in many of the states in which our journal circulates, it will not be time in others to plant for some weeks. Even in our own state, no particular day can be set down as the proper one; for such is the effect produced by a few leagues of location, that a difference of several weeks exists as to the proper time for planting, in remote points of our own limits. But although it may be considered too early for planting, in remote points of our own limits. But although it may be considered too early for planting over a vast range of country, it is full time everywhere for farmers and planters who cultivate this crop. *to be looking about them for manure to grow it with*; for really it is folly, unless one's soil is really rich in organic elements, to expect a large crop of corn, without giving it plenty of manure. The very structure and size of the plants—their habits and rapid growth—would tell us that such is the fact, if costly experience had not long since convinced all observing corn growers of the truth of what we here affirm.—Without the elements to form the grain out of—to sustain the stalk in its wholeness, and enable it to elaborate and perfect its seed—be in the soil, disappointment must necessarily follow every attempt to grow large, or even comparatively profitable crops of corn. If what we affirm be true, and we believe every candid, thinking farmer, will say that it is, then it should be the duty of every one, who desires to make corn-growing a profitable business, to make the accumulation of manure a chief principle in his system of farming. It is not sufficient for any one to say, that he has not the time to devote to such object—for it is alike his interest, and his duty, to take the time. On many farmers—especially those having the advantage of water fronts—the materials for making manure are so abundant, that it would be an object to keep a hand and team the year round, engaged in collecting them. On such estates, substances are to be found, in such abundance, that would seem to be a sin, not to avail one's-self of their enriching properties, as there can be no question, but that Providence placed them there, that man might be induced to appropriate them to the uses of his crops. We were on a visit last summer at a friend's, whose estate fronts the bay shore, and creeks making out of it, for upwards of two miles. His shores were lined at different points with thousands of loads of the very best kinds of materials for composting into manures; and

yet he had never used any of them; and the only reason he had to give, was, that he could not spare the time necessary to collect them, as if the time and labor which might be thus appropriated, would not result in more profit to him, than any other time and labor to be bestowed on his farm. We left him with the promise, that he would set his hands to collecting and composting them the following fall.—If he did so we should like to here what results they may produce on his crops the present season. If he followed our advice, as to the mode of composting the rough materials on his shores with ashes and plaster, or with barn-yard manure and plaster, we feel very sure, that the effects will so tell upon the products of his corn crop, the present year, as to make him a believer in the faith which teaches, that the first duty of a tiller of the soil, is to accumulate manure. Neither man nor beast can effectively labor, unless he be well fed, so is it with the soil—unless the substances abstracted in the growing of crops, be replaced—be re-supplied—exhaustion, impoverishment, must be the inevitable consequence. In this replacement, and re-supply, one need not be so very choicé in his selection, for all animal—all vegetable bodies—may be usefully and profitably, put in the compost heap, if you apply the proper *leaven* to excite fermentation and decay. One load of barn-yard or stable manure, if it be good—if it shall have been properly taken care of—or 5 bushels of ashes, will be sufficient to convert two loads of marsh, river or creek mud, or wood's-mould and leaves, or ditch or road-scrappings, or the earth from head-lands, or fence corners and sides, into good manure. To every twenty loads of such materials, one bushel of plaster or from 2 to 5 bushels of salt whichever be the most convenient or economical, should be added. Over every layer of the coarse material, plaster, salt, or charcoal dust, should be spread, as the compost heaps are being formed, to arrest and economise the volatile principles of the substances, as they may be elaborated by the processes of the decay of the rough materials; for in all the substances we have named, and all others of a kindred nature there are large percentages of nitrogenous matters—large percentages of those elements which under the operation of decomposition, generate *ammonia*, that substance which gives to Guano so much of its active virtues—so much of its agricultural value. We do not wish to be understood as desiring to convey the idea, that, in the production of ammonia, the substances named by us, have anything like the same quantities in their composition, as are to be found in Guano; for such is neither our belief, nor our object; but, if applied in the quantities named by us, they will answer fully as well, as do the ordinary dressing of Guano given to the acre of land. We believe, that twenty double-horse-cart-loads of compost, prepared as we have directed, would impart equal present benefit, as would a dressing of 2, 3 or 400 lbs. of Guano; while its effects, in the melioration of the soil, would be much longer continued. We are aware, that the collecting of the materials, and the formation of such compost heaps will



occupy considerable time. Be it even so: for time and money cannot be better applied and expended. We know situations, where one man and a team could collect twenty loads in a day, which would, with the additions we have named, manure an acre of land so that its yield would be double:—and certainly, no one will question the profitableness of such result.

While we are upon the subject of materials for forming manure, we desire to impress the value of one upon our readers, that almost every body neglects,—and however distasteful its name may sound upon the delicate ears of some, we will name it, for as no one need be ashamed of telling the truth, so should no one, who feels an interest in the welfare of the Agricultural community, permit any false notions of delicacy or taste, to deter him from proclaiming a great agricultural truth. We allude then, to the *Urine*, it behooves us to state the elements of which it consists.

According to *Berzelius*, 1000 lbs. of human urine consists of the following substances, in the quantities named:

Urea*	30.10 lbs.
Lactic acid, lactate of ammonia, extractive animal matter	17.14
Uric acid*	1.00
Mucus	0.32
Sulphate of Potash	37.01
Sulphate of Soda	3.16
Phosphate of Soda	2.91
Muriate of Soda	4.45
Phosphate of Ammonia	1.65
Phosphate of Magnesia and lime	1.00
Muriate of Ammonia	1.50
Silicic Acid	0.03
Water	933.00
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	1000

Here then, in the above analysis of Urine, we have all the elements which enter into the composition of the wheat plant, or, indeed of any other of those plants which are cultivated by man, and so happily blended together, as to be—to use a trite phrase—already cut and dried ready to be taken up by the plants. Why then should it be wasted? And who, pray, thinks of saving it? Very few, indeed. And why not? Is it because it is too unimportant a matter in agricultural economy, to be worthy of consideration? If that be your opinion, you labor under a most egregious error, as we shall presently attempt to shew you. The theory is, that each pint of urine has in it the constituent elements necessary to make a pound of wheat: well then, as every healthy grown up human being, is presumed to excrete 3 lbs. of Urine daily, if such liquid voidings be saved, and appropriated to that purpose, it is competent to grow with this kind of the product of one man per year, 1095 lbs. which is equal to 18½ bushels of wheat. So, if we rely on the theory as being correct—and we doubt it not,—it may be assumed, that the liquid evacuations of one individual, is sufficient to afford the necessary manure for an acre of land to be cultivated in

\*The Urea and Uric acid, will make as many pounds of ammonia.

wheat,—and, indeed, in almost any other crop. But suppose we reduce this estimated value, one-half, to make allowance for wastage, in various ways, and we will then be able, by this means, and from this source, to manure half an acre of land for every healthy adult member of our families—and do it well—besides deriving a large additional supply of the enriching material, from the junior members of our household's. Let us carry out this calculation to the entire population of our country and what is the result? Theory gives the capacity to a pound of urine, of producing a pound of wheat or that the quantity voided by one individual in a year, is sufficient to produce 13½ bushels of wheat,—then as we have a population of 22 millions of human beings, if we assume, taking the old and the young together, that in the aggregate, one-half the quantity of urine is annually produced, then there is enough made to manure 11 millions of acres, or to produce 25,350,000 bushels of wheat per year, and yet, all this *home-made guano*, is *wasted*, as a thing utterly worthless, while every one who can command the money, is investing it in the *foreign* article, which is not intrinsically a whit better.

Having spoken thus strongly of the value of Urine, we will state how we would manage to save it from deterioration—to preserve its animal parts from loss, by the evaporation of its volatile elements. Daily, as made, we would sprinkle plaster over it, stir it well, and then pour it on a collection of earthy matter, which we would have collected and placed in a convenient place for receiving daily additions of urine. Say that 100 loads of marsh mud, wood's-mould, or kindred matters were hauled into the barn-yard, and made up into a cone-like form, and that different parts of it were opened each day, to receive these deposits; in the course of a few months, the whole mass would be completely charged with the riches of the Urine, and be converted into a body of the most active fertilizing manure, as the ammoniacal elements of the Urine, would be seized upon and fixed by the Sulphuric acid of the plaster, from the sulphate of ammonia, and thereby, to a very great extent, be preserved from loss from escape in a gaseous form. The same conservative effect may be produced, by dissolving Epsom Salts, or Copperas in the Urine, or by mixing finely pulverized charcoal, or common salt with it. Either of which substances are excellent manures, when properly applied, and would prevent all offensive smell arising from the urine. It would be well to have the apex of the mould-pile covered by a few boards, if not under cover, to turn the rain and protect it from having its salts washed away.

In connection with Urine, we would have the soapsuds made in the laundry, also poured upon the earth pile, for of a truth it is a most excellent and active manure. We say this, without regard to theory—which establishes its value—from a practical experience in their use.

We purpose now to return to the subject of corn-planting, and all matters akin to its cultivation. As a basis to rear our superstructure upon, we will give analyses of the *inorgan-*



ic parts of the *grain, cob,* and entire plant, as also, of what quantities of matters are supposed to be abstracted from an acre of land by a fair crop of corn. By these lights we will be able to determine what manures we ought to use, and in what quantities, to grow an acre of corn, and how to keep the soil from deteriorating.

Analyses of the inorganic parts of the Grain Cob and Stalks of Corn when ripe.

	Grain.	Cob.	Of the whole Plant, grain, stalks, cob, leaves, &c.
Carbonic acid,	0.850	9.445	
Phosphoric acid, with a little per oxide of iron,	49.219	13.105	14,550
Lime,	0.075	3.833	5 672
Magnesia,	17.600	6 745	6 617
Potash,	23.175	31.400	23,396
Soda,	3.605	11.495	
Sodium,	0.160		22.787
Chlorine,	0.295		7,096
Sulphuric acid,	0.515	1,366	10,970
Organic acids,	5,700		
Silicic acid,		10.320	75 980
Chloride of Sodium,		1,980	
Organic acids,		6.430	
Phos. per ox. iron.		.445	
Phosphates of iron, lime and magnesia,			17 012

The above Analyses are by professor *Salisbury* who is the author of the most minute series of Analyses of the corn plant, in all its parts, and stages of growth ever made. Among his other tables, he gives the following, exhibiting the aggregate amount of the several inorganic bodies removed from an acre of ground by a corn crop:

TABLE

Showing the Quantities of inorganic substances abstracted from an acre by a crop of corn.

•Silicic acid,	189,010
Sulphuric acid,	53,569
Phosphoric acid in the grain and cobs,	25,799
Phosphates of iron, lime and magnesia in the straw and fodder,	72,066
Potash,	72,463
Soda,	99,463
Lime,	16,761
Magnesia,	24,506
Chlorine,	33,294
Organic acids,	12,203

599,254 lbs."

Less by a fraction, than 600 lbs., in all.

Upon the above, professor *Salisbury* makes the following observations:

"We see from the above, that the several inorganic bodies removed from the soil by a crop of maize, rank as follows: Commencing with the highest, silicic acid, soda, phosphoric acid and potash, sulphuric acid, magnesia and chlorine, lime and iron."

"The aggregate amount of inorganic bodies taken from an acre of land annually, by a stout crop of maize, is by no means as large as is

generally supposed; and yet is sufficiently so to exhaust the best soil in a brief period of years, of some of those bodies which act so essential a part in the constitution of the plant. The amount generally, would not much exceed 600 lbs. Indeed it would in a majority of cases fall short of this. In some instances, however, of an inordinately stout growth of some of the larger varieties, it might even go up to 1000 lbs., but such cases would rarely occur. 600 lbs. then may be assumed as the quantity ordinarily removed from an acre of land by a stout crop of maize; or what would be a better criterion to follow, 100 lbs. of inorganic matter for every ton of dry produce. Of this about  $\frac{1}{3}$  is silicic acid, 1-6 soda 1-8 potash, 1-8 phosphoric acid, 1-12 sulphuric acid, 1-18 magnesia, 1-18 chlorine, and 1-18 lime and iron. The silicic acid is mainly removed by the straw, or leaves, sheaths and stalks. There is generally an abundance of this substance in the soil; it being only necessary to ensure the presence of a sufficiency of the alkalies to form with the acid enough of its soluble salts to meet the demands of the plant." \* \*

"The *potash* and *soda* enter quite largely into the composition of all parts of the plant; but more so into that of the stalks, grain and cobs than into the other portions. Soils although they ordinarily contain considerable of these two bodies, yet they generally have a quantity by far too small to supply the lavish demands of this plant for any great length of time." \* \*

"*Phosphoric acid* enters largely into the composition of the grain, and quite largely into that of the cob and stalk. It constitutes about 1-8 of the ash of the entire plant. Soils are commonly quite deficient in this acid; or at least they contain much less of it than almost any of the other inorganic bodies which enter into the composition of plants.

The quantity removed ordinarily from an acre of land annually by a good crop of maize, is from 60 to 75 lbs., or from 10 to 12 and 13 lbs. per ton of dry produce."

"*Sulphuric acid*, from the quantity taken away by a crop appears to be an essential ingredient of this plant. It enters more largely into the stalk, leaves and sheaths, than into the grain. From 45 to 60 lbs. are removed by the annual produce of an acre; or from  $7\frac{1}{2}$  to 11 lbs. per ton of dry plants."

Dana gives the following Organic Analyses:

"Fat forming principles, gums, &c.	88.43
Flesh forming principles, gluten, &c.	1.26
Salts,	1.31
Water,	9.

100."

Looking at the preceeding analyses, and taking professor *Salisbury's* table of the *inorganic* constituents removed by a crop of corn from an acre of land, as our guide—and perhaps it is safe to do so—we arrive at the conclusion,—that all manures for corn ought, independent of their *organic* properties—and *they should be rich in these*—to have substance, viz.—*Sulphuric acid*—the quantity of this, abstracted, was a fraction less than 53 lbs., which, if there were none in the soil,—a thing not probable—could



be supplied by a bushel and a half of plaster, or 100 lbs. of Epsom Salts; *phosphoric acid*, phosphates of iron lime and magnesia, could be supplied by 4 bushels of bones and as many of ashes; *Potash*, could either be supplied by 100 lbs. of the potash of the shops, 200 lbs. of saltpetre, or by 16 bushels of unleached ashes; the latter, would besides resupplying the potash furnish in a greater or less degree, every other organic substance needed by plants; two bushels of salt would afford the requisite quantity of Soda and Chlorine—the abstraction of lime, is singularly small,—so small, indeed, that the plaster would more than replace it—the Magnesia could be replaced by 59 or 60 lbs of Epsom Salts—and as to the organic acids, they would be found both in the soil, and in the organic or animal and vegetable manures applied.

Viewing the necessities of the corn plant, as developed by the analyses before us, with a practical eye, we come to the conclusion, that the integrity of the soil may be kept up, and the wants of the plants supplied, by a dressing composed of.

- 20 loads of barn-yard or stable manure,
- 4 bushels of bones,
- 10 bushels of ashes,
- 1 bushel of plaster, and
- 2 bushels of salt.

Or by an equal quantity of a compost formed of

- 2 parts river or marsh-mud, or any kindred substances,

1 part barn-yard or stable manure and the quantities of bones, ashes, plaster, and salt named above, 100 lbs. of the nitrate of soda, and that the latter, with the exception of the ashes, may be supplied by two hundred pounds of guano being added to the compost of mud and manure. Guano, though rich in the elements of Ammonia, and the phosphate of lime is not so in potash:—*Klaproth* did not detect any in the sample he analyzed—*Vauquelin* and *Fourcroy*, and *Voelkel*, each found but 5.5 percent *Bartels*, 4.2, *Ure*, none; nor was professor Johnston able to detect any in the sample he analyzed. Hence then, as there is an uncertainty of the presence of any considerable percentage of potash in any of the varieties of guano it would be unsafe to rely upon guano alone, in a crop like Corn, when *one-eighth* part of its food is potash,—and, indeed, the largest percentage of potash in any guano we have seen the analyses of, would require an application of some 1500 lbs. of guano to furnish the requisite quantity of potash to replace that abstracted by a crop of corn from an acre of land as demonstrated by the analyses of professor Salisbury; and we are very sure that no cultivator could entertain the idea, for a moment, of any such application as that. Among the missing salts of most old lands, we apprehend that of *potash* stands the most prominent; and, therefore, in all combinations of manures, it should be the policy of improvers, to see if, that substances affording potash we can present; as there is none more needed by grain bearing plants, their capacity to stand erect, in a measure, being dependent upon its action upon the silica of the soil. We do not wish it to be inferred from

what we have said, that we believe all old soils to be destitute of potash. Such is not our belief; but as it is a substance liable to waste, and one required by the wants of most plants it is always safest to act upon the principle that such may be the case. New lands, by the decomposition of the leaves of the forest, for a long succession of years, are always rich in this mineral salt, and hence it is, that tobacco which consumes large quantities of it, prospers most on new or virgin soils.

Let us now turn to the consideration of the subject of the cultivation of the plant. To begin:—

*Preparation of the Soil.*—Dress the soil liberally with rich putrescent manures. As the manure is applied plough it in. Let your ploughing be deep and thorough. Pulverize it by repeated harrowings, lengthwise, first and crosswise, afterwards, and finish by rolling.—We wish to impress this truth upon our readers. Much of the success in the growing of corn is dependent upon the thorough preparation of the soil. If it be ploughed deeply and without balks, and its pulverization be made perfect, the plants are then placed in the best possible condition to avail themselves of the food given them in the earth, while the absorbent properties of the soil are increased, and it, as a consequence, the better enabled to attract and absorb the enriching gases of the atmosphere; so that by this attention in the preparation of the soil we benefit the crop in a two-fold way.

*Laying off the Rows.*—Lay off the rows north and south.

*Distance of Rows.*—Three feet by four, is about as good a distance as any other, provided the soil be in good heart, or well manured.

*Quantity of Manures per acre.*—Twenty double horse-cart loads of barn-yard manure, or an equivalent in some enriching compost will be about the right quantity, and as we have before remarked, the auxiliary substances which we have before enumerated should be found among the manures we have mentioned. 400 lbs. of Guano, mixed with 2 bushels of salt, or 1 bushel of plaster, and ploughed in, aided by 10 bushels of ashes, per acre, the latter to be applied as a top-dressing, would bring a good crop of corn, and leave the soil in good heart for a crop of wheat, to be followed by clover.

*Number of grains of corn in a hill.*—In seedling to corn, it is always best to be liberal; allowance should be made for the destruction of birds, loss from rotting in the ground, &c.—Therefore, it is safest to drop from six to eight grains in each hill; in the dropping of which, care should be taken to spread the grains well, so that the plants might not be close together. We have found the common pipe a very good implement to drop with; by graduation, the bole may be made to hold any given number of grains, and thus may uniformity in the number, be regulated and much time saved.

*Quantity of seed per acre.*—This must be regulated by the variety of the corn, and size of the grains. A peck of some will be enough, while, in the case of a very large grained kind, it might take a peck and a half of another sort.



As a general thing, it may be assumed as a rule, that a peck of corn will plant an acre.

*Preparation of the seed corn.*—There are various soaks recommended; some of which we will name:

1. A pint of *common tar*, or *gas-house tar*, dissolved in 4 gallons of boiling water; the mixture to be stirred until the tar is dissolved, a bushel of corn to be put therein, stirred thoroughly, so as to coat all the grains; if the liquid is not sufficient to cover the corn, add more hot water until that is done. Let the corn remain 12 or 24 hours in the soak, then drain off the liquor, and mix the plaster or ashes with the corn so as to cover and separate the grains, when it will be fit to plant. More corn should not be taken to the field in a day than can be dropped and covered.

2. 1 lb. *Saltpetre*, dissolved in 4 gallons of water, makes a very good soak for a bushel of corn—the seed corn to receive the same after treatment as above detailed.

3. 2 lbs. of *Copperas* dissolved in 10 gallons of water, forms a good soak for a bushel of seed corn, which is to be afterwards treated as recommended in number 1.

4. 2 lbs. of *Glauber Salts*, or the same quantity of *Epsom Salts*, dissolved in 10 gallons of boiling water, will, either, make a good soak—the same subsequent treatment of the corn as recommended in No. 1.

A peck of corn mixed with one quart of soft soap, the corn to be afterwards dried in ashes, answers well.

*Manuring in the hill.*—Manuring in the hill greatly assists the corn plants in the early stage of their growth, but cannot act efficiently after the lateral roots extend themselves; therefore, though it is good policy to manure in the hill, it should never be entertained to the conclusion of broadcast manuring. 1 load of wood's-mould, 1 load of well rotted manure, 5 bushels of ashes, and 1 bushel of plaster, thoroughly mixed together, would be ample to put on an acre of hills of corn—a handfull of the mixture being sufficient for a hill. It may be put on either at the time of planting, or at the first working; it would be better, however, to do so at the time of planting.

*Cultivation of the crop.*—When the plants are up and show themselves throughout the field, take a furrow from either side of the rows, and return it either then, or after you have got through the field or patch. Let the ploughmen be followed by hoe-men to work around and relieve the plants with the hoe and hand. Let all subsequent workings be with the cultivator and hoe,—and, without fear of turning up your soil in dry weather, let your cultivators be at work whenever the soil is baked or the plants foul with grass and weeds. Indeed, no weeds should be permitted to occupy the ground from the time the corn is planted, until it shall receive its last working and be laid by. In working with the cultivators, they should be made to go as near the stalks as possible, so as to avoid injuring them. This lessens the quantity of work to be done with the hoe, and therefore economises labor—a thing which every corn-grower should study and practice. The prac-

tice of using the plough, after the corn is a foot high, in the culture of corn, we have no faith in. Every ploughing after that, lacerates the roots, and, a consequence, throws the corn plants back, until nature and time comes to their aid to restore their mediums of feeding, which had been destroyed by the operation of ploughing; for the aperture, or mouth, through which they receive their food, is at the terminus of each lateral root. If we cut off that, it stands to reason, that the process of *eating* must be suspended until other rootlets start and grow to absorb, or if you please, drink in the food. We are averse too to the practice of hilling corn. The great conditions to success, are, a clean field and open soil.

*Thinning Out.*—If the ground is good and has been manured, 2 and 3 plants should be left standing in each hill—the perfect fecundation of the ears depend, in a measure, upon this.

#### For the Farmer and Planter. Calhoun Cotton Seed.

The following reliable statement from our friend Capt. Byrd is recommended to the consideration of our cotton planting readers, especially in the upper part of our Southern States, for if we *must* attempt raising cotton where we ought not, it is altogether important to have the earliest maturing varieties. Capt. Byrd is of the opinion that the early maturing of the Calhoun Cotton will in a great degree make up for the deficiency of our short seasons. If he is right, and we are inclined to believe from a small experiment of our own, he is, we surely ought to plant none other in the up country.

Some bags of the Calhoun Cotton Seed were deposited in our Village last spring (probably by Dr. Calhoun) for sale, we have heard some complaint by purchaser that they did not come up well; this was an unpleasant disappointment, but we have no belief that it was owing to any natural defect in the seed, but rather suspect they had been heated in the bulk so much as in a considerable degree to destroy their vitality, as is not unfrequently the case with other cotton seed, without it being suspected by the owner, even after he has failed to have a good stand, the failure is attributed to some other cause.

Capt. Byrd's proposal, if we understand him seems to be a fair one. It is, either to give him one dollar per bushel for the seed received, *or* one-half the seed made from the first crop. But a friend objects to the clause binding him to *sell* for Capt. B. his half of the seed—price not stated. To this objection we answer, we presume the price is one dollar per bushel, but at any rate, if you object to selling the seed for Capt. B. keep them and pay him the ten dollars for the seed you have received from him—for his half of the seed produced will be worth more to you than ten dollars, even to put on your wheat, oats or corn. We would say in conclusion, we think one dollar per bushel not an extravagant price to pay for a few bushels of the Calhoun Cotton Seed, in order "to get in the seed."

Ed. F. & P.

Mr. Editor:—When I saw you on your return



from Columbia from the State Agricultural Society, I give you a description of the Calhoun Cotton and in answer to various inquiries from different sources, I have thought advisable to answer through the Farmer and Planter, and give the information desired. A few years since, Dr. E. R. Calhoun, of this place, obtained a few seed from a gentleman travelling from the West on his way to North Carolina. He planted them in the spring, and from the seed this species of Cotton was introduced in the neighborhood. I obtained some of the seed from the Dr. to plant on halves, and I was so well pleased with the yield, that I gave him 100 bushels of wheat, for 100 bushels of the seed, having made 12 heavy bales from 15 acres, one half of the land planted being *very poor*—since then my neighbors have planted it generally, and I know of no one who is not pleased. Its superiority consists chiefly in the following particulars:

1st. It is the most forward cotton I have *ever known*, maturing sooner by 2 or 3 weeks than the common Cotton.

2nd. It will turn out more lint from the seed than any Cotton I have ever tried. My manager, Capt. Johnston, reports to me 35 lbs from 100 lbs. seed Cotton. Mr. Blake and Bell have certified to me that they have weighed 100 lbs. seed cotton and that it made 37 lbs. of clean cotton.

3rd. The seed is very small, which is thought to be the reason why it yields so well.

4th. It will bear planting closer than the common cotton, as it does not run so much to stalk.

5th. The bolls grow closer on the limbs, frequently 4 or 5 cluster together, which may be covered with the hand.

6th. It yields finely, producing on *good land* from 8 to 1200 lbs., and in many instances higher, from 15 to 1800 lbs. to the acre.

Lastly, the staple has a wool-like feeling, comparing favorable with any of the short staple varieties. You will recollect that I recommended the Calhoun Cotton on account of it being so forward in its maturity and adapted to the latitude in which you live and, I would calculate to raise it successfully even under the mountains on a Southern aspect, and I can see no reason why all the valley lands in Anderson, Pickens, Greenville, Spartanburg and even in North Carolina and Virginia, could not make Cotton profitable if planted in Calhoun Cotton. This may be too broad an assertion, but I feel certain I can grow it successfully where the common cotton fails to mature. With this assurance, Mr. Editor, I propose to send to the address of any responsible gentleman 10 bushels of the Calhoun Cotton Seed, *sacked and freight paid* to any point on the Greenville and Columbia Rail Road on the following conditions, that he *plants it on good land, and if he is pleased with it* he pays me ten dollars on the first day of November next, and if it proves a humbug, all I require of him, is to give me one half of the seed and *he to obligate himself to sell them for me*. I make this proposition with every confidence, believing that I can benefit others as well as myself, and thereby add to the productive wealth of the State.

I am yours, respectfully.

THOS. R. BYRD.

Greenwood, S. C. Dec. 2nd. 1855.

For the Farmer and Planter.

#### Large Yield of Shelled Corn to the Ear.

While I have my pen in hand, at the request of a friend I will give you the amount of corn shelled from (76) seventy six ears of the common white gourd seed corn of the country, the yield was one bushel and half peck. The corn was raised on the low grounds of a branch—the distance to each stalk was about equal to three and a quarter feet each way, each stalk of corn having on an average but one ear, the corn was drilled, planted some time in the month of April, and cultivated in the usual manner, and was not a special experiment; the ears were selected. This corn was grown by Mr. Saml. Willard, of Abbeville Dist. S. C. the present season. This, I consider an unusual yield, as one hundred ears have been the number computed to make a bushel. Should you deem the above statement of sufficient importance to interest your readers, it is at your service.

Yours most respectfully,

J. S. REID.

REMARKS.—Thank you friend R. for the above statement. The yield was undoubtedly a remarkable one. It is usually believed that 100 good ears will shell a bushel, but of ordinary corn, we have not found the rule to hold out.

ED. F. & P.

#### Support your own Mechanics.

The following sensible remarks, which we find in some of our exchanges, we transfer to our columns, and would earnestly commend them to our readers in this place and the State at large.

There is no truth more undeniable than that it is the bounden duty of every community to support its mechanics. They are a worthy and indispensable class of men, and we find no town or village flourishing without their aid. Indeed their presence or absence is always a true index of the condition of the place—whether it is advancing in wealth and importance or sinking into decay. Whenever we pass through a village and hear the frequent sound of the carpenter's hammer, the clink of the blacksmith's anvil—that village, we say to ourselves, is flourishing. It cannot be otherwise, for the producers are actively employed, and outnumber the consumers. Whenever and wherever this is the case, the people are growing wealthy, and at the same time training the rising generation to habits of industry and morality. Where, if a city or village pursue the opposite of the course—neglects its mechanics and supports those of some foreign town—those who can, will be compelled to go to some other place, and those who are compelled by the force of circumstances to remain, will become idle and profligate—they will cease to produce and be consumers—in a few years they become beggars, and their children ignorant and vicious.

If there is any truth in the assertion that we ought, as a nation, to give the preference to do-



mestic manufactures, the fact is equally true with regard to the community; both are sustained by the same arguments. If a merchant would have around him substantial customers, let him by every means in his power, support and foster the mechanics of his village, and as they become more wealthy, their custom will increase, especially in those articles on which he makes the greatest profits, for it is undeniable, that as men become more wealthy, they also become more luxurious, and no merchant will deny that articles of luxury always afford the greatest profits. The habit of importing large quantities of cheap and half made articles of competition with our village mechanics, is short-sighted and wrong, both as regards the mechanic and consumer; and if the merchant would look farther into the operation of things, he would find that he crossed the path of his own interest by doing so. Let the merchant bring the case to his own door, and he, perhaps, may better understand it; suppose that every individual who possesses the means, and who uses in his family four or five hundred dollars worth of goods per annum, should, instead of buying of him at retail, go to some city wholesale establishment, and purchase his year's supply—would he not in the bitterness condemn such an illiberal course, and would he not say to him with truth, that he was warring against his own interest, by destroying the business of his town and giving it to another; and that his littleness would react upon him in double fold by the decrease of his property and business! So, in the case above instanced, could the mechanic say the same to the merchant. We say, then, let all classes support each other, and by mutual exchanges keep that wealth at home, which, if necessarily expended abroad, tend to destroy the business of your neighbor, and which in turn destroys your own.

#### Corn and Cob Meal for Horses.

One of the editors of the Michigan Farmer has been experimenting on corn and cob meal, as horse feed, for a couple of months, exclusively, and with the following results. After one month's feeding, febrile symptoms were occasionally observed in one of the horses, such as short and quick breathing, &c.

On stating the case to Dr. Dadd, the skillful veterinary surgeon of Boston, it elicited the following valuable letter. The importance of occasional change of food which it recommends, is not sufficiently attended to by our farmers in feeding their stock.

"As regards your horse, I would (if he is no better) change the diet immediately. He is probably suffering from acute, or perhaps chronic indigestion, which is very apt to occur in animals when kept too long on one kind of diet.

No facts in dietetics is better established than that of the impossibility of long sustaining health, or even life on one kind of diet. It fails to support nutrition. (See Liebig and Carpenter.) The animals experimented upon, after a certain length of time, seemed willing to endure starvation rather than live on one kind of diet. As regards the adult horse, however, he will exist for some time on highly nutritious articles, such as oats, barley, corn meal, &c., but they finally induce febrile diseases such as *laminitis* (inflammation of the foot,) rheumatism, founder, &c. They do not require so much of the flesh-making principles as the young and growing animal, which not only requires sufficient carbon in the form of food to renovate the tissues, but also enough for growth and development.

The adult, however, requires a greater variety of food than the latter, to support the integrity of his organization, consequently as you have fed your horse on corn and cob meal all winter, there may be a disproportion between the amount of carbon, (in the form of food,) and the oxygen respired, hence his digestion must be deranged, or carbon, in the form of fat, is deposited in the various tissues.

A fat horse, of course you are aware, is not the one for fast work nor fatigue, and, the emaciated expected, is more likely to become sick, from the least exciting cause.

On the other hand, an excess of carbonaceous material deranging the stomach—it holding sympathetic relation with the brain—is apt to terminate in staggers, &c. It should be known to horsemen that an adult horse ought not to increase in weight from year to year; the food may be proportioned to work, any increase of flesh or fat, is a signal to dip a lighter hand into the meal bag; that is, if you want to keep disease and death at bay.

It pays to fatten cattle, sheep and swine, because the result, is dollars and cents, but you may depend that it is losing a spec to fatten horses; for among such I have the most practice, their disease being more difficult to control than when occurring in others, in fair working order.

As regards corn and cob meal, I think it operates injuriously on a great many horses.\*

In the first place they do not always masticate it properly, it being soft and easily insalivated, they are apt to bolt it, as the saying is, it then runs into fermentation, resulting in flatulent or spasmodic colic.

In order to obviate the difficulty, the meal ought to be mixed with cut hay or straw, articles that must be masticated ere swallowed. Should the digestive organs be deranged, meal ferments very rapidly, inducing flatulency.

I should not object to giving a horse a feed of corn and cob meal occasionally, mixing it with cut hay and a little salt. Salt is a good antiseptic—prevents fermentation—affords by the decomposition in the stomach, muriatic acid and soda; aids digestion and prevents the generation of worms.

The best remedies for restoring the digestive functions are:

Powdered Gentian, 1 $\frac{1}{2}$  oz. Powdered Ginger,  $\frac{1}{2}$  oz.  
do Sal 2 oz. do Charcoal 1 oz.

Mix, divide into eight parts and give one with food, night and morning.

\*Only, we presume, because it is not fine enough ground, and mixed with oat straw or hay.—Ed. F. & P.





## The Farmer and Planter.

PENDLETON, S. C.

Vol. VII., No. 1, : : : January, 1856.

### The New Year.

To our friends and patrons every where, who have stuck to us in six troubles and are not going to forsake us in the seventh, including our brethren of the Press who have honored us with our list of excellent and always most welcome *exchanges*—with our hat in hand and most polite bow (rather stiff at this time, however, on account of a pain in the back) we tender the usual salutation of the season. With the families and friends of our departed patrons, who set out with us at the commencement of our last year's labors, but have fallen on the wayside, *peace to their ashes, and honor to their memory*, we condole most sincerely.—And we thank the great ruler of events, that in comparison with 1854 but few of our friends in '55 have had the black veil of mourning drawn over their names on our books. We have abundant reason also to be thankful for overflowing store houses, the products of the farmer's and planter's labors, within the last year. With few exceptions, throughout the whole country crops have been most abundant, and prices remunerative. May the year on the threshold of which we are just treading, prove alike propitious.

On the subject of the continuance of our labors in the cause we have embarked and pursued with untiring zeal, for now six years—we have already in the December number informed our friends, that with their approbation and continued favors, we should even with our heretofore inadequate compensation Davy Crockett like "go ahead" and in this number we send out an earnest of our intention, and are happy to say to all who feel any solicitude, that up to this time but few of our old patrons have abandoned us. But not so happy on the other hand to say, we have so far had but few names added to our lists. This is discouraging friends, but yet we shall work on, hoping for "better time coming." Shall we have to work another year and hope in vain? Can it be true that every subscriber we now have could not, with a little exertion, send up *one name only*? It may be so for we do believe many have exerted themselves in the cause but yet there are many more we fear who have been rather indifferent about it, thinking perhaps, that they do enough for us in subscribing themselves and paying for their paper. Well if 12 of our papers are not worth one dollar to a subscriber, then we must acknowledge his dollar a charitable donation.

This number is sent to all our subscribers who have not ordered a discontinuance. If from any cause a subscriber is compelled to decline taking, we will take it as a special favor, if he will turn it over to a friend to substitute instead of returning it.

### Our Corps of Contributors

Who have done so much to enhance the value of our paper, many of them now through six volumes by their valuable contributions to its columns, are surely entitled to our most sincere and grateful acknowledgments. We invite them to continue their labors with us, assuring them that we shall at all times be most happy to have any suggestions from them, and to record their experience in all matters relating to our business.—We also most earnestly invite all others who may be capable—and we trust we have not a subscriber that is not, of communicating something of value to our columns—to come up to the assistance of their good friends who have labored so long in their cause. We know that we have many readers, practical farmers and planters, that are capable of doing much for us in this way, that from some cause have never contributed a line to *their* paper. This is not right friends, you are not taking the golden rule as your guide—you are monthly profiting by the valued experience and suggestions of others, whilst you contribute nothing in return. We again invite gentlemen—and ladies too—if they will, every where who are in the habit of contributing to agricultural papers, of our whole country to share with us; some have done so whom we have never had the honor or pleasure to know or see—we hope they will continue their favors, and induce others to follow their noble example. The able Editor of the "*Working Farmer*" in extracting an article from our paper, which appeared in the last year, makes the following remarks.

The following is from the *Farmer & Planter*, of Pendleton, S. C., by Mr. S. DUDLEY, late pupil with Mr. H. C. VAIL. Mr. DUDLEY has had the advantage of long practice as an empirical farmer, and has now rendered himself practical, by having passed through a course of study, which highly capacitates him as a teacher of the science as applied to agriculture, or in other words, renders him a practical farmer. The following article clearly establishes Mr. DUDLEY's right to such appellation, and we cannot doubt that he will be found a useful adjunct to such papers as he may favor with his article. It affords us much pleasure to introduce Mr. DUDLEY, through Professor MAPES, to our readers, and we have the pleasure with a better acquaintance to invite him to continue his much valued favors.

### Mule Raising.

We would call the attention of our readers to an article in another column, setting forth, as we think, some very correct views on Mule Raising, which had escaped our notice in the *Abbeville Banner* and has been sent us by a friend for publication. They are well worth the serious consideration of the farmers and planters of the South. We have frequently heard the question asked within the last few years, "what



can be the cause of the high price of mules?" and have heard reasons assigned, but believe we have never heard as correct ones as is given by "Saluda"—indeed we believe they are such as but few, if any had thought of. We must confess when our friend who sent us the article first mentioned the subject to us, on our return from the meeting of the State Agricultural Society in November, we were astonished that we had not before taken the correct view and foreseen the approaching danger, and more especially as we have practiced a course which, if followed by every one, would be best calculated to counteract the effect foreseen by "Saluda." Our practice has been since we commenced scratching the ground, to rear our own horses and mules to do it with, we have bought but few of either and have sold more than we have bought. But have raised because we thought it cheaper to raise than buy, even when they were selling at half the price they are now readily commanding. We are decidedly in favor of mules, especially for negroes to work; but this is not the case with every one. White men who have to work their own teams, in a great majority of cases prefer the horse. Would not all such best subserve their own interest by keeping mares principally in order to keep up their own stock, and raise mules to sell to their neighbors who prefer the mule. At one time whilst we kept a force in Cass County, Ga., we procured a jack, exchanged our stock of mules and horses for mares, with the intention of raising a mule from each, yearly, to sell. And by having one or two extra mares, if we could have been present all the time, we might have succeeded to our satisfaction; but owing to the carelessness and inattention of overseers, we scarcely ever had more mules to come yearly than half the number of mares kept. This, and one objection, that of being deprived altogether of the work of mules, caused us gradually, as our mares gave out, to abandon the course; but we have ever since doubted the propriety of so doing, especially in Cass County, where raising a mule and the keeping of extra mares costs so little. We yet keep a jack for our own use, and a few mares from which we raise occasionally both horses and mules.

Farmers and planters of the South, it is high time you were thinking what shall be your future course. Read "Saluda's" warning, reflect on it, and act accordingly.

#### Acknowledgments.

Our thanks are due and hereby tendered

To COL. J. L. ORR, our esteemed Representative in Congress—For a copy of Explorations for a Rail Road Route from the Mississippi to the Pacific. And also for a copy of Patent Office Reports for 1854.

To HON. CHARLES MASON—For a copy each of Agricultural and Mechanical Patent Office Reports, 1854.

To MR. VICK, of the *Genessee Farmer*—For a copy of his excellent little work, "*The Rural Annual and Horticultural Directory*," which should be in the hands of every orchardist and horticulturist. It contains directions for the preparation of the ground for the orchard

and fruit garden, planting, pruning, &c. With a list of fruits recommended by the American Pomological Society, and the several State Societies. Also plain directions for the making and planting the flower garden, &c., &c., with 60 engravings. Price 25 cents. Address JAMES VICK, jr., Rochester, N. Y.

To THOS. AFFLECK: Washington, Adams Co., Miss.—For a copy of "*Affleck's Southern Rural Almanac*," for 1856. A work which every man in the South should have, and one that we need not recommend to any one that has ever seen "*Affleck's Almanac*," with its planter's and gardener's calendar, with much other most useful and interesting matter. A catalogue of fruits and ornamental trees and plants, cultivated and for sale at his Nurseries, where our South Western orchardists should all purchase instead of going North for fruit trees.

#### New Exchanges.

"THE WESTERN AGRICULTURIST AND FIRESIDE COMPANION."—We have received number 6, volume 1 of this work, with which we are much pleased, both in matter and the neat manner in which it is got up. The *Agriculturist* is a neat quarto of 16 pages, published weekly at the low price of two dollars, by DAVID RAMALY, Pittsburg, Pa. Will exchange with pleasure.

"FRANK LESLIE'S ILLUSTRATED NEWSPAPER."—A specimen sheet of this promising work has been received. Shall be happy to exchange on terms proposed. On the receipt of the first number we shall give such notice of it as we may think it deserves.

"THE NEW YORK HORTICULTURAL REVIEW."—We are in receipt of the Nov. number of this welcome periodical—just such a work as we have for some time desired to receive. The *Review* is edited by C. REAGLES, Esq., who is said to be one of the best Botanists in the United States, writes with great ability, is an ardent worshiper of nature, and will go far towards filling up that niche in American literature made vacant by the death of the lamented DOWNING. The *Review* contains 76 royal octavo pages, printed on superfine book paper, and published monthly at two dollars per annum, and less to clubs. Address C. REAGLES, 208, Broadway, N. Y. We are pleased to enter the *Review* on our exchange list.

"HUNTER'S MEDICAL, SPECIALIST AND JOURNAL OF THE DISEASES OF THE CHEST."—This work, a few numbers of which we have received, seems to be the herald of another medical reform in our country. It supports the theory and practice of inhalation for diseases of the lungs. The medical profession in their abuse of quacks and quackery, forget, we think, that they are living in glass houses, as long as there are diseases over which they have no more control than has an old woman with the "yarbs." One of the most fearful diseases that the human family is heir to, is *consumption*, which, if Dr. HUNTER is able to do aught in arresting, and he seems willing and ready to prove his faith by his works, he is surely entitled to the gratitude of mankind as a public benefactor. We believe there is a remedy in store for every disease if taken in time, and it may be that one has been discovered for the most appalling in the whole catalogue. The *Specialist* is a hand-



some quarto of 16 pages, and contains matter of great importance, both to the medical profession and to heads of families. Published monthly, at one dollar per annum. New York.

Notices of our old exchanges will be attended to in the February number, as will, perhaps, of some new ones that may have escaped our attention at this time.

For the Farmer and Planter.

#### Review of the November number of the Farmer and Planter.

MY DEAR SIR:—A rainy day has come at last. A regular Nor' Easter, with its almost invisible insinuating mist driven before it, warns us to keep within doors. We were grumbling at our fate, when our mail boy laid upon the table the November number of the Farmer and Planter. We congratulate you upon the amount of original matter contained in the few last numbers. Unless farmers carry out the maxim, "teach one another," the best agricultural paper in the world will do very little good.—People who won't write are not very apt to read, and if they read they will be almost sure to write. Let us have it, come in what shape it may. I have rarely conversed with any farmer who even thought for himself, without learning something. But to the contents of the November number before us:

"OATS AN EXHAUSTER."—If we be not mistaken, we have broken a lance with one as "skilful of fence" as the writer of this article. We are an oat man, and always sow largely, but cannot subscribe to the doctrine of nor exhaustion. Why?

#### OATS CONTAIN.

Lime, 3.7,

Magnesia, 7.7,

Potash, 12.9,

Soda, 0.6,

Phos. acid, 14.9,

#### OAT STRAW.

8.3.

28.

24.5.

4.4.

3.0.

No plant containing these constituents can be grown upon a soil and fed off without exhausting it.

There is no better green food than oats for hogs, and no better food when ripe for horses. It would be worthless as food, if it did not contain the elements of fat, bone and fibre; it can get these from no place but the soil—ergo the soil must suffer. But we will not take up time with our views. The interesting article, "experiments in the culture of oats," from the "American Farmer," published in your November number, covers the whole ground, and, if science be worth a brass button, no man can doubt after reading it. We are free to admit that some soils are not as much injured by oats as others. We have never made a half crop of

oats, after oats and can always tell to a row the difference in corn where oats and wheat were grown. But Doctors will differ.

"CORN CULTURE."—Well, Broomsedge says, they can do on "Deer Creek lands of Miss., more than he can do on Big Branch, and no mistake." One may not be much troubled with grass when they have no rain from April to 20th June; but we don't call any land "ordinary" in South Carolina, that will make 30 bushels corn per acre, dry or wet year.

"RUST ON COTTON."—"A friend of B.'s" should learn to quote him more correctly before he cries out that he "caught him napping." We said that we thought it *generally* made its appearance around stumps and trees, &c.; and we take this to be the reason why the opinion has so long obtained among old fogies, that rust came from poke stalks and briers. We once in our juniority had a long controversy with a capital planter, (one far superior to our humble self,) on this subject; and one day, talking to a friend (by the way, too, one of the most successful planters in Fairfield,) about our articles; he said, "you have managed your cause very well, but I really think D\*\*\*\*\* has the best of it, and I'll give you my reasons: I have a field in which rust has broken out every year in the same spot, and done a great deal of damage. My driver said, it always came from a poke stalk, which grew in a big stump. The next spring I burned the stump, and have never seen rust there since." "But, my dear sir," we replied, "may not burning the stump have changed the character of the soil, and removed the cause of rust to the poke stalks?" "Well, that might be—he had not thought of that."

Whenever a soil begins to grow deficient in any of the elements essential to a healthy plant, (and all soils must which give up their 1000 lbs. cotton annually,) rust will be sure to exhibit itself. The fact of fresh lands being more exempt, would indicate the cause to be want of organic matter. Many close observing planters here think guano aggravates it.

"MANAGEMENT OF HOGS."—We are glad to see planters taking an interest in this important branch of husbandry. The price of pork and the scarcity of it will drive us all, we hope, to better management. One thing is certain, to depend on the corn crib is a dear business; we must make out some other system. Will P. W., and S. H. allow us to suggest artichokes as a part of the hog-feeding rotation. And "Sandy Hill" thinks we "are a little too timid as to progress!" Well! Well!



What will our neighbors say to that? "He has waked up the wrong passenger, surely."

SCENE IN A BLACKSMITH SHOP.—Enter Farmer. What's that, Smith? S.—A Plow, sir. F.—A Plow! S.—Yes, a Subsoiler. F.—(musing,) absalter, yes, I've heard of 'em; whose is it? S.—Mr. Broomsedge's. F.—Yes, I 'lowed, as much just like him—he's spent a fortune just running after such new fixings as that. The above is literally true, 'pon honor. Good, eh! timid! We thank S. H., and all other friends for their high appreciation of our productions, and only wish we knew how to do better.

"WATER-PROOF BOOTS AND SHOES."—A very good and cheap preparation may be made of lard and rosin, (1 lb. of lard, 4 oz. rosin.) melted together, and applied hot. It preserves leather wonderfully, and renders it almost water-proof. The negroes say, if you will pour hot pot-liquor into a peg shoe, it will never rip.

"DEVON CATTLE."—Dr. Battey has given us a capital article on this subject. How far practice will sustain its theory, we are not prepared to say. The first sentence, "the great success of breeding cattle depends mainly upon the adaptation of the size of the breed to the soil and climate," embraces the whole subject in a nutshell. You can't go beyond that without going down hill. Mr Peters, of Atlanta, Georgia, has the finest herd of Devons in the United States. He has taken great pains to engraft a milking strain, and has succeeded. What is more, he can be relied on. We are willing to stake our reputation upon his integrity as a breeder.

"NUT GRASS,"—And "De Kalb" thinks Nut-Grass can be eradicated by shaving off the spires for one summer. Dr. Bachman asserts, that after the great fire in Charleston, Nut Grass "put up" upon lots where the houses had been standing for 100 years. We once penned seven razor-back rooters upon a square 30x30 feet, for 12 months. In a few years it was the best set square in the garden. We have known gardens turned out, converted into horse lots, and tramped as hard and kept as bare as "the big road" for years, and afterwards, when brought into cultivation, show Nut Grass plenty.

QUERY.—Does not grass mature a seed in this climate? If so, how is it that a lot only separated by a paling from a garden that has been full of it for 20 years, has none in it, notwithstanding, calves and horses have repeatedly been shifted during the seed-bearing season, from one to the other. We do not believe it

perfects its seed here, because we have never known it invade any man's premises to which the earth containing it had not been carried by transplanting trees or flowers, or by freshets. For 14 years we have been passing to and from lots of Nut Grass, upon which our horses have run at all seasons, and we have never brought a spear upon our farm.

"LICE ON COTTON."—We thank P. for this sensible article. We were rode down by a half dozen practical planters last spring, for advocating such a doctrine. Coming from as high authority as P., we trust planters will give it more credit. Whenever a plant or animal gets under the weather, insects begin to prey upon it, and the effects are soon too palpable to be overlooked a healthy plant will soon shake off the lice. Soak or wet your cotton seed, and roll them in Mape's Improved Superphosphate of Lime, prepare your ground and plant as P. advises and you are safe.

"JUST THE THING FOR POOR LAND."—Uncle Sammy's corn—just the thing we wanted—engage us any quantity. It must be near akin to the corn Thomson gave old Tom Bishop, which bore a gourd on the top of the stalk, which you had only to break, when out rolled a pint of shelled indian. Our old friend G used to tell us that up on "Winkum and Polecat," the natives had a little yaller corn, about waist high, that always made plenty, rain or no rain, land poor or rich. We guess this is some of the same breed. Pass it round and advertise.

"A FEW FACTS FOR FARMERS."—It is an old saw, that "no one can beat the devil quoting scripture." How knowing Horace Greely can write on agricultural matters. But Horace sometimes goes ahead of himself, his perfection establishment, the North American phalanx failed to pay, and sold out a dead broker concern after a few years experiment, after all his puffing. The above article is well worth our study, however, bad as the source from whence it comes.

"LICE ON CATTLE."—Well, we are glad to hear that this abominable stuff, Yankeeum, is good for something. We are almost ready to believe that we have at last found an antidote.

"FRUIT FOR THE SOUTH."—Those enterprising gentlemen deserve to be encouraged. They have taken great pains to procure choice varieties of native fruits—to the manor born, and will supply you with a good article. A very large proportion of the trees bought North die the first summer; very few Northern varieties succeed well South, and very little reliance can be placed on what you get. Patronize home nurseries, home mechanics, and home manu-



facture, is the true Doctrine for Southern people. Now that Rail Roads are piercing every region of the State, and connecting us with the great consumers of delicacies in our Southern cities, every man should be busy planting out an orchard. It is just as easy to have a good as a bad variety of fruit. It costs no more, and pays far better in every sense of the word. We have no idea to what extent the demand may go—it is limited only by the capacity of the human stomach to consume, and the taste to enjoy good things. Physiology nor no other ology has settled that question.

We have seen "Granny Buff" and Catawba Reds, selling only a few weeks ago, readily in our village, from a North Carolina wagon, at 40 cents per dozen—choice ones, at 5 or 6 cents a piece. Just as good apples can be grown upon every farm with a little pains, and if we don't care to sell them, what we can't eat will make capital food for hogs, sheep, chickens and little negroes; no fear of waste. Send in your orders to Sumner & Crammond, and begin at once.

"PEAS."—The Oregon you will stick to, Mr. Editor. Well, every man to his own notion. We have a serious notion of making a rise on the Japan. It makes more litter than the Oregon, and is far more prolific. The Black pea is our idea of a renovator, though, and as a stock pea, the safest of all. The Java, Shinney Partridge et al, we are inclined to think could be made very valuable, as they will mature after cotton is laid by. But my sheet is full, and readers are weary.

Ever yours, BROOMSEDGE.  
Big Branch, Nov. 10, 1855.

For the Farmer and Planter.  
Great Yield of Wheat.

MR. EDITOR:—I have seen reports of remarkable yields of grain of every kind, the present year, and also of large pumpkins, squashes, beets, potatoes, &c.; &c.; but I do not recollect seeing any report of a greater product of wheat to the acre or from the quantity sown than has been obtained by Mr. Wm. High, of Cherokee County, Alabama. Mr. High sowed  $4\frac{1}{2}$  bushels of wheat on  $6\frac{1}{2}$  acres, and the product was 365 bushels,  $3\frac{1}{2}$  pecks, as I was creditably informed whilst travelling recently in Alabama. I was further told that undoubted certificates could, if necessary, be obtained in proof of the fact. This is about 56 bushels to the acre, or near 81 bushels to one bushel sown. Who can beat it?

C. M. E.

Pendleton, Dec., 1855.

REMARKS.—We do not know who can or has beat

it in the South, for this is undoubtedly a remarkable product, and one that should encourage us, especially in the upper parts of the Southern States, to farm it more and plant less than we do. Wherever we can, by the best preparation of our land, and the most careful putting in of the seed, raise even 20 bushels of wheat to the acre, we should not, in our humble opinion, ever attempt raising cotton for market; but instead, grain and grasses altogether, which would enable us to raise more stock, improve our lands, and in the long run make more money than we are doing under our present half-planting, half-farming, and land-destroying system.—Ed. F. & P.

From the Abbeville Banner.  
The Evil of Raising Mules.

The reader will, if he has not already asked the question, where lies the evil of raising mules? Are they not more easily raised than horses more durable, more lasting, and more particularly adapted to rough negro service? Therefore, where lies the evil of raising them in preference to horses?

But let us look at the subject, in reference to the future, as well as the past and present, and I think it will appear to a reflecting mind as one of the greatest of evils and indeed one of the greatest of curses to the country. While the tendency of the latter is to increase the number and render them cheap, that of the latter is gradually to lessen the number and enhance the price. When we remember that unlike horses, they are a hybrid, and incapable of propagating their species, it requires no great stretch of the imagination to see, that if the mule mania continues a few years longer, the most disastrous consequences will be the result. Brood mares will become scarcer every year, until we shall be entirely at the mercy of Kentucky, and such prices demanded for mules, as will open our eyes to the real cause, and force is back to the good old practice of raising horses. There are not now one-fourth as many brood mares in this District, that were ten years ago. But that does not here stop, nor will it do otherwise than grow more enormous every year, until the system itself is abolished. In consequence of the stimulus we give to Kentucky to raise mules, brood mares are there becoming scarce, and it is not uncommon for stock raisers in that State, even now, to procure them from adjoining States. If the system were carried on without hindrance, if there were not a prohibitory price, beyond which we could not be remunerated to go, the time would come,—and at no very distant day either, when we consider the ordinary life time of a horse—when the whole race of horses would be extinct.

Under the system as now carried on, we see nothing in the future but high prices. In five years, they would be worth four hundred dollars, and in ten years, not less than five or six hundred; by which time, we shall be forced,—if we do not voluntarily before—to return the old custom.

It is to be hoped, however, that a new era is about to dawn upon us, that the State Agricultural Society, combining as it will, the wisdom



and foresight of the State, will take this subject into serious consideration. There is involved in it, an interest of immense importance, and the sooner the tide in favor of mules is checked, the better for all classes of our people. If that Society applies its funds to the encouragement of mule raising as former Societies have done, it will never be able to compensate the State for injury inflicted.—There is about as much sense in bestowing premiums on mules, as there would be on hermaphrodites, or on emasculated sows and fillies, or on a cross of any two opposite species of animal, which could not propagate its kind. It would be more to the interest of the State, to offer premiums on the scalps of Jacks, than to encourage their progeny.

Mules are raising in price every year, and they will continue to rise; let us not flatter ourselves that this is attributable to some temporary cause, that will be removed sooner or later. No, it is the natural result of a most unnatural system, and will magnify in importance, if the proper remedy is not applied, until our people will be forced to resort to some other than horse power for the cultivation of their farms.

Let us, then, at once begin to replenish our stock of brood mares, drive all Jacks from the land, and return to the good old natural system of raising *bona fide* horses. SALUDA.

#### The Dhoora.

The following remarks on the Dhoora Corn, we get from the *Abbeville Banner*. Try it.

The experiments with this remarkable plant by several gentleman belonging to the Greenwood Farmers' Club, are so satisfactory and important, that a notice of them, and a particular description of the plant itself, will be a valuable addition to our agricultural knowledge.

The botanical name of this plant is *Sorghum Vulgaria*; it is also known by the name of Indian Millet. Prof. James F. Johnston, of England, whose labors have achieved so much for the agriculture of his own country, and of the world, and whose lamented death the newspapers are just now recording, thus briefly describes the Dhoora plant: "Dhurra or Dhoora"—a small kind of grain, much cultivated and extensively consumed in India and Egypt, and the interior of Africa—is quite equal, in nutritive value, to the average of our English wheats and yields a heatiful white flour. According to my analysis, buckwheat flour contains 10 1-2, and Dhoora flour 11 1-2 per cent. of gluten." Now, since gluten is the chief nutritive ingredient of all our grains, this comparison of the Professor exhibits, at once a nutritive value for the Dhoora that surpasses some of the richest grains in use, for food of man or stock. With such qualities as these reported by Prof. Johnston, and other scientific agriculturist, the *Sorghum Vulgaria* could not long escape the practical tests of our intelligent farmers.

It was introduced to the notice of the Greenwood Club, by Dr. Horace Leland, and afterwards more thoroughly tested by Maj. R. A. Gaffin of the same vicinity. He planted it after the last part of spring, some time in April,

four feet in the row, and fifteen inches in the drill, depositing five or six grains in a hill. He afterwards thinned down to one stalk, transplanting to hills that were deficient; it will bear transplanting as well as cabbage. This thinning is necessary, from the strong tendency of the plant to sucker and spread. The soil, such as would be selected for common corn, should be properly prepared and manured before planting; and with ordinary preparation of this sort, this yield is from 80 to 100 bushels per acre.

Extending his experiments recently to the green stalk of the Dhoora, Maj. G. discovered a cause of its being so much relished by stock, and its singular fattening effects, in addition to the excellent qualities of its grain. He found on chewing the stalk, which he perceived was consumed in this way by the stock, that it is exceedingly rich in cane juice—but little inferior to the sugar cane itself. Several practical gentlemen to whom he exhibited this fact, were astonished, and deemed a test of its syrup and sugar-producing qualities, worthy special attention.

Maj. G. informs us that he has now forty-five hogs ready for slaughter, that have not taken from his crib a single bushel of corn a piece, having been wholly fattened on ground nuts, the pea pasture, and the Dhoora corn. A few will doubtless surmise, from this flattering account that Maj. G., or some one else in his vicinity, has Dhoora seed for sale. It is not so. He has indeed a large quantity on hand—a hog's head full—but scarcely enough for his own use, and for gratuitous distribution among his neighbors.

This brief description of the Dhoora plant, is substantially true, and we have laid it before our readers, believing that its cultivation in respects to stock alone, is destined to work a great and earnestly desired revolution in our domestic and agricultural economy.

#### The Best Position of Fires for Warming Apartments.

The following paper, is said by the *Plow, Loom and Anvil*, to have been read by Dr. Arnot before the London Society of Arts.

"These explanations being premised, the two popular delusions respecting the low fires become at once apparent.

"1st. The supposition the fuel burnt in a low fire gives out more heat, has arisen from the experimenter not reflecting that his hand held over the low fire feels not only the heat radiated from the fire itself, but also that reflected from the hearth close beneath it, which second portion, if the grate were high, would have room to spread or radiate downward and outward to the more distant floor or carpet, and so warm them.

"2d. The notion that the fire, because near the floor, must warm the carpet more springs from what may be called an error in the logic of the reasoner, who is assuming that the hearth, floor, and carpet, being parts of the same level, are in the same predicament—the truth being, however, that in such a case, the the hearth within the fender gets nearly all the downward rays, and the carpet almost none—



as a candle held before a looking glass at a moderate distance diffuses its heat pretty uniformly over the whole; but if moved close to one part of the glass, it overheats, and probably cracks that part, leaving the rest unaffected. A low fire on a heated hearth is to the general floor or a carpet of a room nearly what the sun, at the moment of rising and setting, is to the surface of a field. The rays are nearly all shooting upward from the surface, and the few which approach it slant obliquely along or nearly parallel to the surface, without touching and therefore without warming it.

"Striking proof of the facts here set forth is obtained by laying thermometers on the floor or a room with a low fire, and of a room with the fire, as usual of old, at a height of about fifteen or sixteen inches above the hearth. An experiment tied in two such rooms, in both of which thermometer on the piano-fortes, four feet above the floor, stood at 62°, showed the carpet, not far from the hearth, to be at 56° with the low, and at 73° with the high fire.

"As would be anticipated by a person understanding the subject aright, low fires make cold feet very common, unless to those who sit near the fire with their feet on the fender; but, deceived by their fallacious reasoning, the advocates are disposed to blame the state of their health or the weather as the cause, and they rejoice at having the low fire, which can quickly warm their feet when placed near it. A company of such persons seen sitting close round their fire, with thankfulness for its warmth near their feet, might suggest the case of a party of good-natured people duped out of their property by a swindler, and afterward gratefully accepting as charity from him a part of their own property."

#### Economy of Great Bargains.

The present season is the saturnalia of shoppers. Worthy house-wives exult over the low price of goods in general; young ladies are in raptures at the cheapness of dress fabrics; and those ubiquitous females, who are the terror of shopmen because they are always bargaining and never buying, actually begin to purchase. Everywhere one hears the cry, "What bargains things are!" Many a good dame expatiates to her husband on what she thinks a Providential occurrence, that when coal and marketing are so high, all articles of wearing apparel are so low. It allows them, she sagely tells him, to dress the children as decently as ever, in spite of bakers, butchers, and vegetable women. She is even in hopes of laying by something towards buying the new carpet, or purchasing a piano for Anna Maria, or providing for the wants of the suffering poor during the approaching winter. In every third household, perhaps, the great cheapness of goods is considered a lucky help towards economy. It is the burden of the ladies' song in parlors and sitting rooms, go where you will.

But unfortunately in practice, the result is very different. Mrs. Thrifty goes out a shopping, intending only to spend a few dollars; but she is tempted by one cheap article and another, till at last she has purchased twice as much

as she usually does at this season. The dealer tells her that in this silk she saves thirty cents a yard; that these gloves cannot be imported for twice what he asks, and that laces, chemizettes, embroidered sleeves, and all that sort of things, never were so cheap since Adam, and never will be again.

The calculating customer begins at last to suspect that the wisest thing she can do is to lay in a stock for a year ahead; and so she buys whatever she thinks "monstrously cheap," fancying, all the while, that she is saving money, but forgetting that half of what she purchases will be out of fashion before she can wear it, and that much of the other half is dear at any price, because really not needed. Thus she, who wore merino at fifty cents, now wears silks, because she can buy them at seventy-five cents, yet flatters herself she can save money. Meantime the husband has to foot the bill, wondering in the simplicity of male nature, at the odd notions which his wife has of economy, and perhaps heaving a sincere sigh over his vanished dream of having a piano for his daughter.

There isn't a worse delusion than that of "great bargains." It is an *ignus fatuus*, which will lead any body astray, who once begins to be its dupe. The ladies are by no means the only persons who are victimized by this Jack O'Lantern. Men are as weak as women in regard to "great bargains." Many a strong-minded "lord of creation" is tempted to buy a big house, which he doesn't want, and which he can poorly afford to pay for, merely because it is a "great bargain." Many a carriage and horses are bought because the purchaser happens to be at an auction where things are going at a "great bargain." Many a disastrous speculation is entered into simply because the lands, or merchandise, or whatever else is the object, is offered at a "great bargain." We could almost say that "great bargain" is the devil's bait, with which he lures people into ruin. For the whole notion that a thing is a "great bargain" because the price is low, is a fallacy, since nothing is cheap that we do not really want.—*Phila. Ledger.*

#### Book worms and Dunces.

The difference between those who spend a lifetime in the perusal of antiquated works on agriculture, and those who never read at all, is much less than is generally supposed; and while a thorough reading of the current practical improvements of the day is highly useful, the application of an antiquarian taste in the study of agriculture is worse than useless. What can it avail to a modern farmer, to know what were the processes of a thousand years ago? What consequence can it be to him to know what crops could be raised by the use of a wooden plow, or what was the opinion of Jethro Tull on matters which have been materially improved and better understood since his time? Many of our agricultural works are half filled with the history of agriculture, with scarcely a pertinent word in relation to the minutia of present processes. They remind us of a work which has enjoyed some popularity, entitled



"Hydraulics," from which no artizan can learn how to build a pump. It is merely a revamping of Vitruveus and other writers, describing the modes of raising water by the Ancients. An Examiner in the Patent office might study the history of Agricultural tools with profit, for it would enable him to know what was strictly new but a farmer should study to know the best and most recent improvement of the day. He need not fear that any tools preceeding those now in extended use, are superior, for had they been so, they would have remained in use. No set of artizans are so jealous of their old tools as farmers. Any new invention must be clearly proved to be superior to those which preceed it before it can find its way into the tool house of most farmers. The continued repetition and recital of agricultural processes of the Ancients, although the fashion of the day, is like the refusal of our colleges to grant their honors to those who can substitute a knowledge of two of the modern languages in place of one of the dead ones. Progression is the order of the day, as well as the first law of nature, and farmers, beyond all others, should be the first to remember and obey this law.—*Working Farmer.*

**DEFAULTING ADVERTISERS.**—In violation of our rules we have been advertising pretty extensively for persons at a distance, without any guarantee for our pay but the honor of advertisers—believing from the position they occupied or assumed to occupy, that that alone would secure our pay. In this we have in several cases been sadly disappointed. This paper will be forwarded to each of those defaulters, together with their bills, and unless satisfaction is given within a reasonable time, we will publish each individually with names and business of such defaulter, together with the circumstances under which their advertisements were admitted.—*Ex.*

### Useful Recipes.

**HOW TO GET RID OF RATS,** old young, and middle aged, with the shortest possible suffering to them, and with small probability of their dying in their holes, or other uncomeatable places.

Spread a level teaspoon of flour or corn-meal on a chip or a small piece of dirty board, sprinkle over this half a grain of strychnine; it kills the rat before he can get to his nest.

So powerful a poison, it can but be barely necessary to remark must be so guarded in its use, as to preclude any possibility of danger there from to other animals. A sixth of a grain of pure strychnine will kill a dog in half a minute. One grain which would easily lie on a three cent piece, or even less, may prove fatal to a man. Hence the reason for not mixing more than half a grain at a time.

Tanners bark is now understood to be capital-ly adapted to the strawberry. Spread it completely on the soil; it will keep the fruit clean and the soil moist. This is the true mulching for the strawberry. There is no doubt of this.

**BEST BREAD.**—The best bread is that made of *unbolted wheat flour*. In some cases a small portion of white bread may be desirable, but the brown, after a short time, will be found more palatable, and conducive to a more regular and healthy condition of the system. It has been ascertained that even dogs cannot live over fifty days fed upon fine flour bread and water; when fed upon such as contained the whole or a large portion of the bran, they are found in no respect to suffer.—*Water-Cure Journal.*

**FARMERS, MAKE YOUR OWN CANDLES.**—Take 2 pounds of alum, for every 10 pounds of tallow, dissolve in water before the tallow is put in, and then melt the tallow in the alum water with frequent stirring, and it clarifies and hardens the tallow so as to make a most beautiful article for either winter or summer use, almost as good as sperm.

CAMPHOR is said to have proved itself efficient as an antidote to the poison of strychnine. It is to be administered largely, by the mouth and by injection.—*Ex.*

**The Weevil Destroyed by Yellow Birds.**—Mr. D. H. Roberts, residing on a farm in Colesville, (N. Y.) communicates the following important discovery to the Binghamton Republican:

"A neighboring farmer wished he would get a gun and kill some yellow birds, which farmers generally suppose destroy the wheat. Mr. R. declined, as he does not like to kill birds of any kind. Out of curiosity, however, he killed one of the birds and opened its crop, when he found that the bird, instead of eating the wheat, eat the weevil—he great destroyer of wheat. He found as many as two hundred weevils in the bird's crop and but four grains of wheat, which had the weevil in them. This is a very important discovery, and should be generally known. The bird resembled the canary, and sings beautifully."

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